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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,612	01/18/2000	Joanna Qun Zang	CISCP130/1343	9893

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EXAMINER
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BAYARD, EMMANUEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 11/06/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/484,612

Applicant(s)

ZANG ET AL.

Examiner

Emmanuel Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8, 24 and 29 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-23, 25-28 and 30-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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**DETAILED ACTION**

1. This is in response to amendment filed on 7/25/03 in which claims 1-59 are pending. The applicant's amendments have been fully considered but they are moot based on the new ground of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9-23, 25-28 and 30-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani U.S. Patent No 6,449,250 in view of Loukianov U.S. Patent No 6,636,971.

Referring to claims 1, 7, 12, 39, 44, 51, 54 and 58 Otani discloses a method of providing backup service to a group of cable modems comprising: receiving information regarding the status of the group of modems from the working device the protecting device; determining that the protecting device is to take over service; taking over service to the group of cable modems (see generally column 2, lines 1-12).

However Otani does not teach synchronizing the protecting CMTS to the working CMTS in response to a change.

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Loukianov teaches synchronizing the protecting CMTS to the working CMTS in response to a change (see 4, lines 41-65).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60). Regarding claim 2, Otani further discloses that receiving information involves receiving a synchronization message from the working device via a monitor device (see generally column 1, lines 66-67, column 2, lines 1-12).

In reference to claim 3, Otani further discloses that the synchronization message includes MAC and IP addresses of the group of cable modems (see generally column 2, lines 15-25).

Regarding claim 4, Otani discloses that the message received by the protecting device includes IP addresses, a subnet mask, and upward/downward frequencies, which are all DOCSIS parameters (see generally column 7, lines 7-14).

Regarding claim 5, Otani discloses that each device has a memory that stores control information for the attached modems (see generally column 5, lines 35-65). Upon a failure of the working device, this information is sent to the protecting device, which updates its database with the received information (see generally column 7, lines 1-20).

Referring to claim 6, Otani further discloses that information about the status of the cable modems includes an entire set of synchronization data (see generally column 7, lines 8-19).

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Regarding claims 9 and 10, Otani further discloses an N+1 redundancy structure comprising N working central devices and 1 protecting device. When N is greater than 1, the protecting device provides service to a second group of cable modems as claimed in claim 9, and when N is equal to 1, the protecting device does not provide service to a second group of cable modems as claimed in claim 10. See generally column 1, lines 47-50.

Regarding claim 11, Otani further discloses that determining that the protecting device is to take over comprises determining that the working device is not providing signals to a designated node, said node being the monitor device (see generally column 7, lines 1-7).

Regarding claim 13, Otani discloses that determining that the protecting device is to take over service comprises receiving notification that "working" device is no longer sending notifications. This occurs when the monitor device polls the "working" device (see generally column 8, lines 1-57).

Regarding claim 15, Otani illustrates that the working and protecting devices are separate interfaces (see generally figure 1).

Regarding claim 16, Otani further discloses that switching between the working device and the protecting device does not require changing the settings of the terminals (see generally column 1, lines 42-44).

Regarding claim 17, it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

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Referring to claims 18, 22, 34, 37 Otani discloses an apparatus capable of acting as a protecting device for a cable network upon failure of a working device comprising: a processor and a memory (see generally column 5, lines 7-14).

However Otani does not teach where at least one of the processors and the memory are configured to receive and store synchronization data from the working CMTS in response to a change in configuration.

Loukianov teaches at least one of the processors and the memory are configured to receive and store synchronization data from the working CMTS in response to a change in configuration (see col.4, lines 41-65).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

Regarding claim 19, Otani further discloses that the apparatus acting as a protecting device is only a portion of the cable modem center device (see generally column 1, lines 47-49).

Regarding claim 20, Loukianov teaches a line card (see col.4, line 24). Furthermore implementing such teaching into Otani would have been obvious to one skilled in the art as to accurately secure storage device as taught by Loukianov (see col.4, lines 24-25).

Regarding claims 21 and 23, it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

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Regarding claim 25, Otani discloses a computer program having instructions for providing backup service to a group of cable modems comprising receiving information regarding the status of the group of modems from the working device to the protecting device, determining that the protecting device is to take over service, and taking over service to the group of cable modems (see generally column 2, lines 1-12; column 7, lines 1-19).

However Otani does not teach synchronizing the protecting CMTS to the working CMTS in response to a change.

Loukianov teaches synchronizing the protecting CMTS to the working CMTS in response to a change (see 4, lines 41-65).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

Regarding claims 26, 28, 33 it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

Regarding claim 27, Otani discloses that each device has a memory that stores control information for the attached modems (see generally column 5, lines 35-65). Upon a failure of the working device, this information is sent to the protecting device, which updates its database with the received information (see generally column 7, lines 1-20).

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Regarding claim 30, Otani further discloses an N+1 redundancy structure comprising N working central devices and 1 protecting device. When N is greater than 1, the protecting device provides service to a second group of cable modems. (See generally column 1, lines 47-50).

Regarding claim 31, Otani further discloses that determining that the protecting device is to take over comprises determining that the working device is not providing signals to a designated node, said node being the monitor device (see generally column 7, lines 1-7).

Regarding claim 35, Otani further discloses that the apparatus acting as a working device is only a portion of the cable modem center device (see generally column 1, lines 47-49).

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Regarding claim 36, it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

Regarding claims 40-43, it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

Regarding claim 45, Otani further discloses that determining that the protecting device is to take over comprises determining that the working device is not providing signals to a designated node, said node being the monitor device (see generally column 7, lines 1-7).

Regarding claim 47, Otani discloses that notifying the protecting device comprises sending a switch request message to the protecting device (see generally column 6, lines 52-55).



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Regarding claim 48, Otani illustrates that the working and protecting devices are separate interfaces (see generally figure 1).

Regarding claim 49, Otani further discloses that switching between the working device and the protecting device does not require changing the setting of the terminals (see generally column 1, lines 42-44).

Regarding claim 50, it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

Regarding claim 52-53, it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem.

In reference to claim 55, Otani discloses that the monitor program receives notification that a signal from the working device is no longer being received and determines that the protecting device is to take over (see generally column 7, lines 1-7).

Regarding claim 56, Otani further discloses that the instructions for notifying the protecting device comprises sending a switch request message (see generally column 6, lines 5254, column 7, lines 1-20).

Regarding claim 57, it would have been obvious to implement the synchronization of Loukianov into Otani as to ensure continuously conductivity between the cable modem termination system and the cable modem as taught by Loukianov (see col.4, lines 56-60).

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Regarding claim 59, Otani would include a wireless network as to provide the system with a greater range of quality signal.

#### Allowable Subject Matter

17. Claims 8, 24 and 29 are allowed.

Regarding claims 8 and 29, prior art of record fails to disclose that the working and protecting device operate on the same downstream channel.

Regarding claim 24, prior art of record does not disclose that both the working and protecting devices use the same downstream frequency.

#### Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Unger et al U.S. Patent No 6,230,326 B1 teaches a method and apparatus for initialization of a cable modem.

Arutyunov U.S. Patent No 6,611,868 B1 teaches a method and system for automatic link.

Leung U.S. Patent No 6,487,605 B1 teaches a mobile IP.

Mao et al U.S. Patent No 6,111,675 teaches a system and method for bi-directional transmission.

Kawada et al U.S. Patent No 5,515,429 teaches a backup apparatus.

Chen et al U.S. Patent No 6,588,016 teaches a method and apparatus for locating a faulty component.

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Horton, Jr et al U.S. Patent No 6,606,352 B2 teaches a method and apparatus for converting between byte lengths.

Hrastar et al U.S. patent No 6,301,223 B1 teaches a method of using routing protocols.

Moore et al U.S. patent No 6,480,469 B1 teaches a dial up response testing.

Bernath et al U.S. patent No 6,556,591 B2 teaches a method and apparatus for upstream burst transmission.

Beser U.S. patent No 6,370,147 B1 teaches a method for addressing of passive network host.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is (703) 308-9573. The examiner can normally be reached on Monday-Thursday from 8:00 AM - 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour , can be reached on (703) 306-3034. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Emmanuel Bayard

Primary Examiner

October 27, 2003